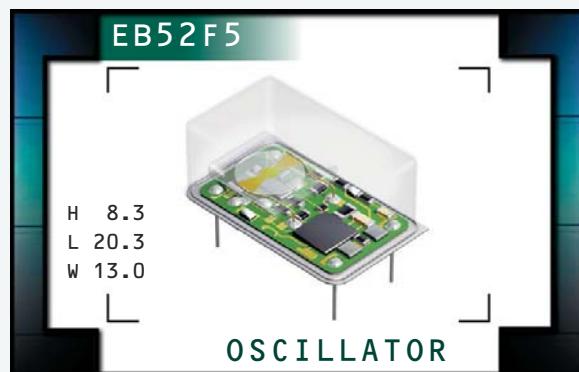


EB52F5 Series

- Temperature Compensated Crystal Oscillator (TCXO)
- HCMOS Output
- 3.3V Supply Voltage
- Stability to 1.5ppm
- Internal mechanical trim
- External voltage control option available



NOTES

ELECTRICAL SPECIFICATIONS

Frequency Range	1.544MHz to 44.736MHz
Operating Temperature Range	See Table 1
Storage Temperature Range	-55°C to 125°C
Supply Voltage (V_{DD})	3.3V _{DC} ±5%
Input Current	Measured at Steady State at 25°C, at Nominal V_{DD} , at Nominal V_C 15mA Maximum ≤ 20.000MHz 25mA Maximum > 20.000MHz
Frequency Stability	vs. Initial Frequency Tolerance vs. Operating Temperature Range vs. Input Voltage (V_{DD} ±5%) vs. Load (±10%) ±1.0ppm (at Nominal V_{DD} and V_C , at 25°C) See Table 1 (at Nominal V_{DD} and V_C) ±0.3ppm Maximum ±0.2ppm Maximum
Aging (at 25°C)	±1ppm / year Maximum
Output Voltage Logic High (V_{OH})	90% of V_{DD} Minimum
Output Voltage Logic Low (V_{OL})	10% of V_{DD} Maximum
Rise Time / Fall Time	20% to 80% of Waveform 6 nSeconds Maximum
Duty Cycle	at 50% of Waveform 50 ±5(%)
Load Drive Capability	15pF HCMOS Load Maximum
Control Voltage Range	0.0V _{DC} to V_{DD}
Control Voltage (External)	Positive Transfer Characteristic 1.65V _{DC} ±1.35V _{DC}
Frequency Deviation	Referenced to f_0 at $V_C = 1.65V_{DC}$, $V_{DD} = 3.3V_{DC}$ ±7ppm Minimum, ±20ppm Maximum
Linearity	±10% Maximum
Internal Trim	Measured at 25°C, $V_{DD} = 3.3V_{DC}$, $V_C = 1.65V_{DC}$ ±3ppm Minimum (Top Access)
Input Impedance	10kOhms Typical
Phase Noise (at 19.440MHz)	Measured at 25°C, at Nominal V_{DD} , at Nominal V_C at 10Hz Offset at 100Hz Offset at 1kHz Offset at 10kHz Offset at 100kHz Offset -70dBc/Hz Typical -100dBc/Hz Typical -130dBc/Hz Typical -140dBc/Hz Typical -145dBc/Hz Typical

MANUFACTURER
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
EB52F5

PACKAGE
14-PIN DIP

VOLTAGE
3.3V

CLASS
0S3B

REV. DATE
06/04

PART NUMBERING GUIDE

EB52F5 G 15 A V - 12.800M - G

INITIAL TOLERANCE
G= ± 1.0 ppm Maximum

FREQUENCY STABILITY
Two Digit Code Per Table 1

OPERATING TEMP. RANGE
One Letter Code Per Table 1

AVAILABLE OPTIONS

Blank=None (Standard)
CB=Cut Leads to 2.540 ± 0.500 ($0.100'' \pm 0.020''$)
CC=Cut Leads to 3.175 ± 0.500 ($0.125'' \pm 0.020''$)
CD=Cut Leads to 3.810 ± 0.500 ($0.150'' \pm 0.020''$)
CE=Cut Leads to 4.445 ± 0.500 ($0.175'' \pm 0.020''$)
G=Full Size Gull Wing

FREQUENCY

EXTERNAL TRIM

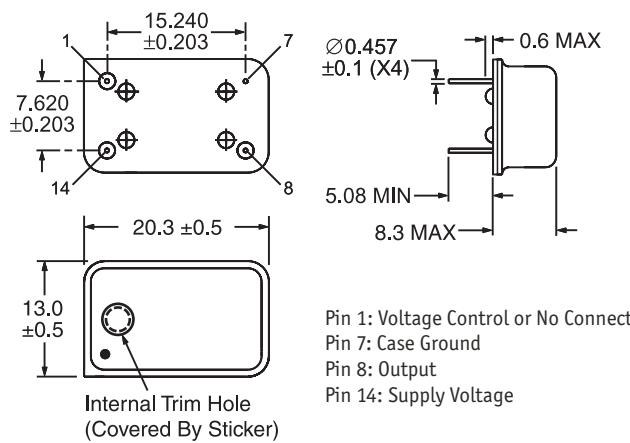
N=None (No Connection on Pin 1)
V=Voltage Control on Pin 1

TABLE 1: PART NUMBERING CODES

Operating Temperature Range	Code	Frequency Stability			
		X = Available from 1.544MHz to 32.768MHz Y = Available at any Frequency			
		± 1.5 ppm	± 2.0 ppm	± 3.0 ppm	± 5.0 ppm
0°C to +50°C	A	Y	Y	Y	Y
0°C to 70°C	B	X	Y	Y	Y
-20°C to +70°C	C		X	Y	Y
-30°C to +75°C	D			Y	Y
-40°C to +85°C	E			X	Y

MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: XX.XXX M

M=MHz

Frequency (5 Digits Maximum + Decimal)

Line 3: XX Y ZZ

Week of Year

Last Digit of Year

Ecliptek Manufacturing Identifier

Note: Pin 1 shall be designated with a dot

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic

Specification

Fine Leak Test	MIL-STD-883, Method 1014, Condition A (Internal Crystal Only)
Gross Leak Test	MIL-STD-883, Method 1014, Condition C (Internal Crystal Only)
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Lead Integrity	MIL-STD-883, Method 2004
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-883, Method 210
Resistance to Solvents	MIL-STD-883, Method 215

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